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DEPARTMENT OF THE ARMY TECHNICAL MANUAL

PROCEDURES FOR DEMILITARIZATION  
OF  
TANK-AUTOMOTIVE EQUIPMENT  
(US ARMY TANK-AUTOMOTIVE COMMAND)

Headquarters, Department of the Army, Washington, D.C.  
29 June 1973

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**CHAPTER 1  
INTRODUCTION**

**1-1. Scope**

a. This manual provides additional technical instructions covering the methods and degree of demilitarization of US ARMY TANK-AUTOMOTIVE COMMAND (TACOM) surplus military equipment as required by DOD 4160.21-M-1. DOD 4160.21-M-1, which contains the basic information and definitions on demilitarization, *shall be used in conjunction with this manual*. Where this manual conflicts with DOD 4160.21-M-1 and changes thereto, the latter takes precedence.

b. This manual covers demilitarization requirements for the following TACOM type equipment.

(1) Military type armed vehicles, armored vehicle, and vehicles fitted with, designed, or modified to accommodate mountings for weapons, armament, or other specialized military equipment.

(2) Military tactical vehicles, tanks, tank recovery vehicles, half-tracks and gun carriers.

(3) Self-propelled guns and howitzers.

(4) Military recovery vehicles.

(5) Amphibious vehicles.

(6) All specifically designed components, parts, accessories, attachments, and associated equipment.

(7) M151 vehicles.

c. This manual implements the policy and procedures of the Department of Defense (DOD) relating to the demilitarization of surplus military items located in the United States, Puerto Rico, and the Virgin Islands, and foreign excess "Munitions List Items located in areas outside the Continental United States, Puerto Rico, and the Virgin Islands; and demilitarization of equipment prior to disposition by donation, which are owned or procured by or under the control of the DOD Military Services/Defense Agencies.

d. This manual is applicable to all Department of the Defense installations, organizations and activities using US Army Tank-Automotive Command equipment. This manual specifies the major items to be demilitarized, designates the key points to be mutilated, and prescribes methods for accomplishment of demilitarization. The provisions of this manual are applicable to all elements of US Army Tank-Automotive Command and other activities using US Army Tank-Automotive Command equipment cited in paragraph 1-1b above.

e. Request for exceptions or additions to the demilitarization requirements contained in this manual will be forwarded through appropriate Military Service/Defense Agency channels to the Assistant Secretary of Defense (Installations and Logistics) on a case-by-case basis. Full justification will accompany each request.

f. It is the policy of DOD that surplus and foreign excess personal property designated implements of war and other military type items will be demilitarized to the extent necessary to preclude the unauthorized use of military items; destroy the military advantages inherent in certain types of property; render innocuous that property which is dangerous, protect the national interest; and preclude the compromise of security requirements. Unless otherwise authorized, surplus and foreign excess personal property prescribed to be demilitarized by this manual must be demilitarized prior to transfer of title to a purchaser.

### **1-2. Reporting of Errors**

Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028, Recommended Changes to Publications, and forwarded direct to Commander, US Army Tank-Automotive Command, ATTN' AMSTA-MAP, Warren, MI 48090

### **1-3. Authorization**

a. Demilitarization of surplus military materiel shall be limited to that which the National Inventory Control Points (NICP's) have identified as requiring demilitarization. Demilitarization of those items which are not normally

physically accepted by a Property Disposal Officer (PDO) will be accomplished by the activity having physical custody of the property upon completion of all required utilization and donation screening. Such action will be coordinated with the PDO. Where appropriate, demilitarization of this property may be accomplished as a condition of sale, provided that there are effective controls and surveillance to assure proper demilitarization. Where the PDO is the custodian of the property and is unable to perform the required demilitarization, he may require demilitarization as a condition of sale, with proper inspection and surveillance, or may obtain assistance from the activity turning in the property.

#### *b. Disposition by Donation*

(1) As authorized by 10 USC 2572, 10 USC 7545, or other similar statutes, specific condemned or obsolete combat material (e.g., combat guns, projectiles, tanks, etc.) may be donated in the manner prescribed in DOD 4160 21-M, Part 3, Chapter III, to municipal corporations, posts or recognized war veterans associations for use or display and to accredited museums for display. Minimum demilitarization of such items will be accomplished to render the items unserviceable in the interest of public health and safety. This limited or minimum demilitarization will be performed in accordance with the instructions prescribed in Chapter 3-3 of this manual but in such a manner so as to preserve the intrinsic, historical or display value of the property.

(2) All such donations under authority outlined above will be made subject to a special condition which prohibits further disposition (including donation) of the items without prior approval of DSA or the Military Service effecting the original donation.

c. The demilitarization of foreign excess and other military-type items do not apply when transfer is effected within DOD or to other agencies of the United States Government for utilization purposes. When transfer is made to another Federal agency for use by that agency, an agreement will be made to the effect that demilitarization requirements will be complied with prior to transfer of title to any purchaser other than agencies of the United States Government.

**1-4. Certification.** A certificate reading substantially as quoted below and signed by two authorized and qualified Government representatives, will be executed and placed in the applicable contract or property disposal file for all items demilitarized. "I certify that (indicate items) were demilitarized in accordance with (cite specific instructions

Change

No. 1

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 4 December 1974

**PROCEDURES FOR DEMILITARIZATION  
OF  
TANK-AUTOMOTIVE EQUIPMENT  
(US ARMY TANK-AUTOMOTIVE COMMAND)**

**NOTE**

The purpose of this change is to rescind all information given for the M151 Vehicles. TM 750(262-1, 29 June 1973, is changed as follows:

*Page 1, Table of Contents.* The title of chapter 3 is superseded as follows:

**DETAILED INSTRUCTIONS FOR DEMILITARIZATION OF MILITARY VEHICLES**

Under the title of chapter 3, delete line 6, "Disposition of M151 Vehicles, paragraph 34, page 5."

Delete paragraph 1-lb (7k)

*Page 2.* In paragraph 1-2, line 7, change "ATTN: AMSTA-MAP" to "ATTN: AMSTA-MCP"

*Page 5.* In chapter 3, the title is superseded as follows:

**DETAILED INSTRUCTIONS FOR DEMILITARIZATION OF MILITARY VEHICLES**

*Page 5.* Paragraph 34 is rescinded.

*Page 11.* Figure 8 is rescinded.

**By Order of the Secretary of the Army:**

FRED C. WEYAND  
*General, United States Army*  
*Chief of Staff*

Official:

VERNE L. BOWERS  
*Major General, United States Army*  
*The Adjutant General*

Distribution:

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which were complied with, e.g., Defense Demilitarization manual DOD 4160 21-M-1, TM 750-262-1)"

Automotive Command demilitarization accomplishments will be made in accordance with TM 38-750, on DA Form 2408-9, (Equipment Control Record).

### 1-5. Reporting Demilitarization. US Army Tank-

## CHAPTER 2 METHODS OF DEMILITARIZATION

### 2-1. Description of Methods, Tools and Equipment Used to Demilitarize US Army Tank-Automotive Equipment.

a. Methods of demilitarization for general supplies are breaking, deforming, crushing, cutting, chemically treating, or smelting to the extent required to preclude originally designed use. Examples of specific cutting methods are illustrated in the figures 1-7 in this manual.

b. Of the possible cutting methods, the cutting torch is the most thorough, but it is the most time-consuming. If a power shear is used, it should be of adequate size and power to preclude equipment breakdown. The use of precision cutting torch fixtures, precision cutting saws or precision tools of any kind to minimize mutilation is forbidden. Crushing to the extent that an item is flattened

and completely destroyed is the preferred method of mutilation. The parts, components, alignment points, attachment fittings or areas which, when demilitarized, cannot feasibly be repaired, restored, replaced, improvised, or commercially procured and which are necessary factors in restoring the next higher assembly to design capability.

c. See Attachment 1, Items 1 and 2 of Chapter 1, Part 2, DOD 4160-21-M-1 for methods of demilitarization of armament and warnings.

d. Detailed instructions for demilitarization and warnings for tanks of all types, tank type recovery vehicles, gun carriers, armored cars and armored tracked vehicles are prescribed in Chapter 3 of this manual.

## CHAPTER 3 DETAILED INSTRUCTIONS FOR DEMILITARIZATION OF MILITARY VEHICLES AND DISPOSITION OF M151 VEHICLES

### 3-1. Method and Degree of Demilitarization. (for surplus military vehicles located in United States, Puerto Rico, and the Virgin Islands).

#### NOTE

The term "key points" used throughout this manual represents the parts, components, alignment points, attachment fittings or areas which, when demilitarized, cannot feasibly be repaired, restored, replaced, improvised, or commercially procured and which are necessary factors in restoring the next higher assembly to design capability.

#### a. Tanks and Other Type Track Vehicles

(1) Tanks of all types, military-type tank recovery vehicles, gun carriers, armored cars, and armored-tracked vehicles.

(2) Key point to be demilitarized. Armament and armor.

(3) Method and degree of demilitarization:

(a) Armament will be demilitarized as prescribed in Items 1 and 2 of Attachment 1, Part 2 of

DOD 4160 21-M-1 Demilitarization of main armament (such as gun, howitzer, mortar or rocket launcher) on the vehicles (fig 1 thru 7) or after removal from the vehicles.

(b) All hinge-mounted items (such as doors, ramps, or hatches) will be removed from the vehicle prior to cutting the hull.

(c) For vehicles with turrets and/or cupolas, the turret and/or cupola will be cut in two sections as shown in figure 1 and removed prior to cutting the hull.

(d) The top section of the hull on all vehicles will be cut into four sections without affecting the suspension, as shown in figures 1, 2, and 3. To accomplish the hull cuts, a complete circumferential cut will be made at or just above the track or wheel level and cuts will be made across the top of the hull from the center to the rear center (longitudinal) and from the left side center to the right side center (transverse).

(e) A rectangular section of the hull front

armor plate, starting at the circumferential cut and extending to the floor line, will be removed. The width of the section will be removed. The width of the section will be determined by making the widest cut possible without affecting the suspension.

*b. Partially Complete Material.*

(1) Items in a partially completed state; such as, forgings, castings, extrusions, and machined bodies, which have reached a stage in manufacture where they are clearly identifiable, and which are a key point or incorporate a key point

(2) Key point to be demilitarized: As identified for the completed item

(3) Method and degree of demilitarization: As indicated for the completed items.

*c. Research and Development Material.*

(1) Key points to be demilitarized: Such points as required to protect security, design features, and proprietary rights and public health, safety, and welfare

(2) Method and degree of demilitarization: Completely destroy the end assembly if applicable and mutilate components as required to comply with subparagraph c(1) above. Destruction of assembly or components will be performed as specified for similar items listed in this manual by cutting, torching, breaking, shearing, chemically treating, etc, to destroy the identity of the item or component

*d. Production Equipment and Special Tooling.*

(1) Production equipment and special tooling designed specifically for the manufacture or test of key points of items listed in this manual and having no commercial or industrial application.

(2) Key points to be demilitarized: Dies, jigs, fixtures, and other appurtenances or portions of the principal item specifically designed for the production of key points

(3) Method and degree of demilitarization: Key points will be broken or otherwise mutilated to the degree required to preclude repair or restoration for original intended use.

*e. Military Training Equipment.*

(1) Military training equipment includes attack trainers, gunnery training devices, target equipment, armament trainers, mobile training units and military-type link trainers

(2) Components, parts, accessories, attachment and associated equipment specifically designed or modified for the items in subparagraph e(1) above.

(3) Key points to be demilitarized:

(a) All classified material. (b) Key point to be demilitarized: Those parts and components specified by the engineering cognizant Military Service as being classified for security reasons.

(c) Method and degree of demilitarization: In accordance with owning Military Service directives for safeguarding and/or disposal of classified material

f All other military operating equipment incorporated in military training equipment are to be demilitarized in accordance with the methods and degree of demilitarization shown in Items 1 through 25 of Attachment 1, Part 2 of DOD 4160.21-M-1 as applicable.

**3-2. Method and Degree of Demilitarization (Outside the United States, Puerto Rico, and the Virgin Islands).**

*a. General.* Provisions for the demilitarization of surplus property in the United States, Puerto Rico and the Virgin Islands are equally applicable in the demilitarization of foreign excess property located in overseas areas. Foreign excess property will be demilitarized not less than prescribed for the same item in the preceding paragraph. In addition, the munitions list items and other military-type property set forth in this chapter, will be demilitarized in the manner and degree prescribed when located outside the United States, Puerto Rico, and the Virgin Islands.

*b. Military Training Equipment.*

(1) Military training equipment such as attack trainers, radar target trainers, radar target generators, target equipment, armament trainers, pilotless aircraft trainers, mobile training units, military flight simulation devices, operational flight trainers, flight simulators, radar trainers, instrument flight trainers, navigation trainers, gunnery training devices and antisubmarine warfare trainers; key components, parts, accessories, attachments and associated equipment.

(2) Key points to be demilitarized: Entire item.

(3) Method and degree of demilitarization: Completely destroy the equipment beyond repair or restoration for original intended use.

*c. Tanks and Other Type Track Vehicles.*

(1) Military vehicles fitted with mounting for arms or other specialized military equipment, designed for carrying and handling ammunition, launch vehicles, guided missiles, ballistic missiles, rockets, torpedoes, bombs, mines, propellants, explosives, and incendiary agents; military mobile repair shops specifically designed to service military equipment; amphibious vehicles; self-propelled guns and howitzers; and all specifically designed key components, accessories, and attachments, including military bridging and deep water fording kits for the articles in this category.

(2) Key points to be demilitarized: Armament and armor on tanks and ordnance vehicles; on other items, as designated by procuring service.

(3) Method and degree of demilitarization: Tanks of all types, military-type tank recovery vehicles, gun carriers, armored cars, and armored tracked vehicles will be demilitarized as outlined for Category VI, Attachment 1, Part 1, Chapter 1, DOD Manual 4160-21-M-1. Additional demilitarization will be accomplished in the manner and degree prescribed by the theater commander or his authorized representative, if required in overseas areas Other items listed will be referred to the procuring service for specific instructions

### 3-3. Demilitarization Requirements for Donated Items.

a. The cost of demilitarization of tanks and tank-like vehicles will not exceed \$255.00, in addition to cost of demilitarization for the weapons

#### NOTE

Demilitarization of the material will be accomplished without changing the exterior appearance of the vehicle

b. Self-propulsion will be eliminated by:

(1) Draining all fuel tanks

(2) Removing battery connection to vehicular electrical system

c. Weld shut all doors, hatches, and similar attachments over at least 50 percent of contact areas. (One hatch may be left unwelded but pad-locked shut until vehicle reaches display site to comply with Interstate Commerce Commission (ICC) regulations. Then weld hatch as prescribed.)

d. Weld all movable levers, handwheels, and similar devices with a substantial weld to prevent movement.

e. The steering mechanism and track drive should be left intact to facilitate towing of the vehicles

f. Tank and tank like vehicle weapons and mounts. The cost of \$75.00 per mount and gun.

g. Demilitarization of armament and warnings is described in Part 4, Attachment 1, DOD 4160.21-M-1.

### 3-4. Disposition of M151 Vehicles.

a. *Disposition of M-151 Vehicles* (see fig. 8). Vehicles that have had the major components or parts removed where the vehicles may not be transferred or utilized as usable units without incurring major expense for repair or purchase of parts, may be offered for sale

upon cutting or similarly destroying the frame and the suspension in a manner that will prevent subsequent reassemble. Disposition relating to the M151 in the usable category will be forthcoming in the transfer of vehicles to Federal Agencies with mandatory safety clauses.

### 3-5. Warnings and Safety Instructions.

a. Demilitarization by torch cutting is inherently hazardous. High order and low order explosions may occur in torch cutting closed chambers such as tanks, accumulators, recoil mechanism components, hollow rods or hollow valve stems, even though the components are not under pressure or have had small holes drilled in them

b. An explosive condition may result from the heat of the torch vaporizing oil, paint or components inside the component. In addition, gases from the cutting torch may enter the hollow space, either adding to or creating a highly explosive condition

c. In torch cutting, it must be realized that components under spring pressure may become dangerous upon sudden release of the spring-holding construction

d. Safety precautions are also necessary where flammable materials or materials such as sodium and magnesium are involved in the torch cutting operation.

e. Precautions against the hazards of torch cutting should include isolation of the working area, a technical knowledge of the construction of the component to be torch cut, and remote control of the cutting operation.

f. If a power shear is used, adequate safety precautions should be taken to prevent any flying fragments from injuring personnel A holding fixture should be installed on the shear so that guns or other items need not be held by hand during cutting.

g. Lethal material, because of its design, intended use, or composition, is capable of causing injury, death, or destruction Lethal material consists of but is not limited to: arms, ammunition, bombs, grenades, explosive rockets, squibs, solid fuels, poisonous and caustic acids, whether gaseous, liquid or solid, toxic biological agents, spring-load devices such as recoil mechanisms and equilibrators, etc

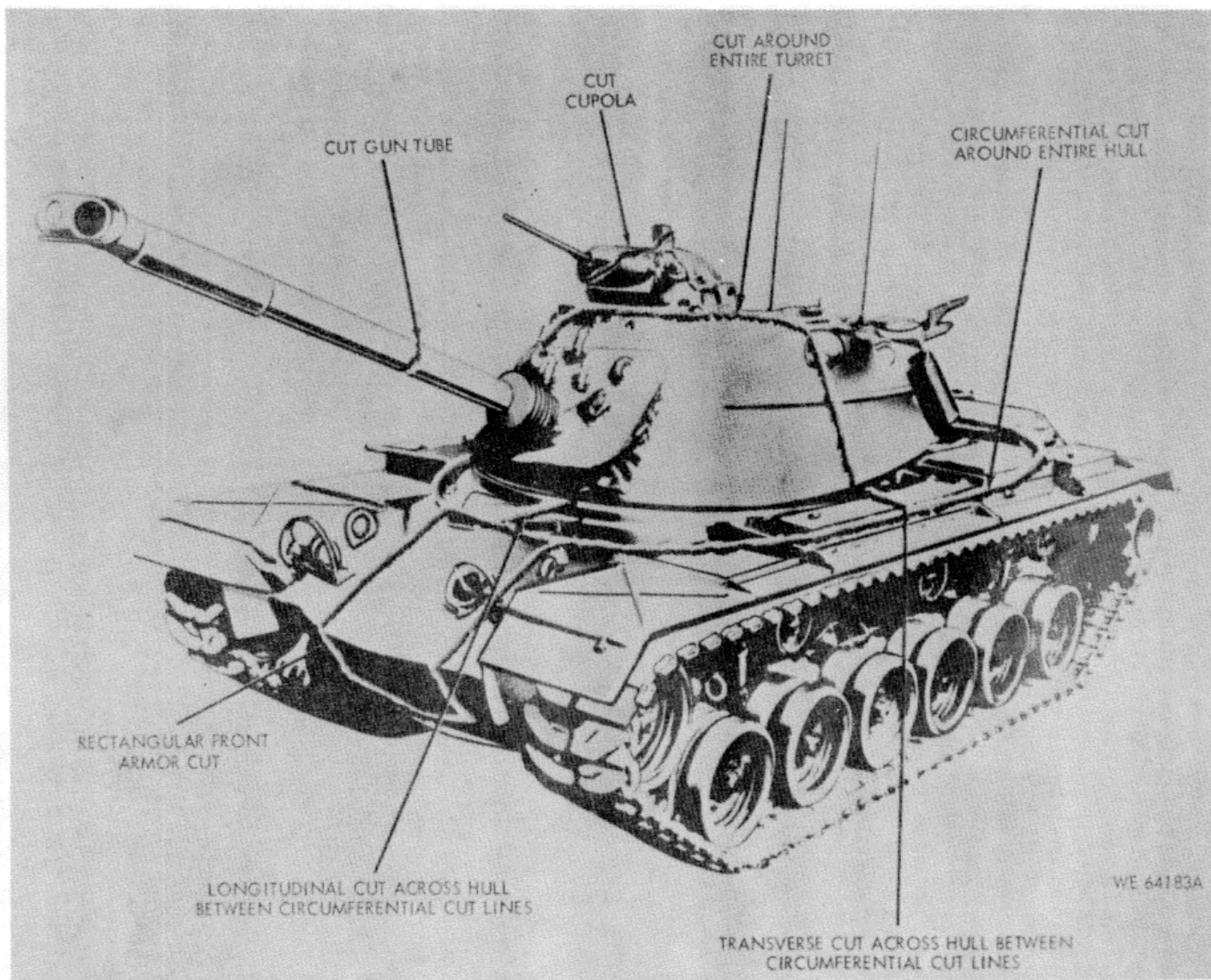


Figure 1. Demilitarization of Tanks by Cutting



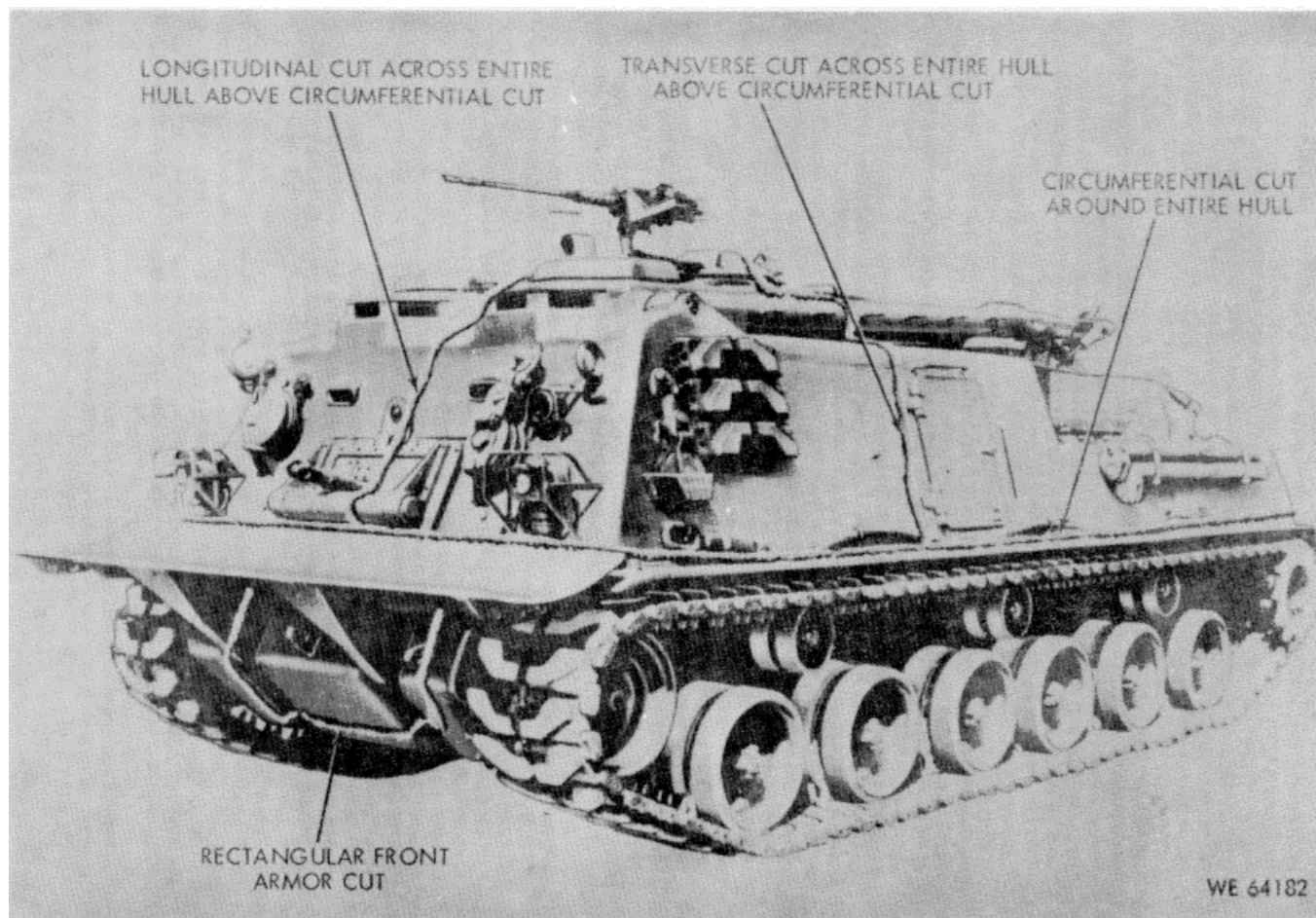


Figure 2. Demilitarization of M88 Tank Recovery Vehicle by Cutting

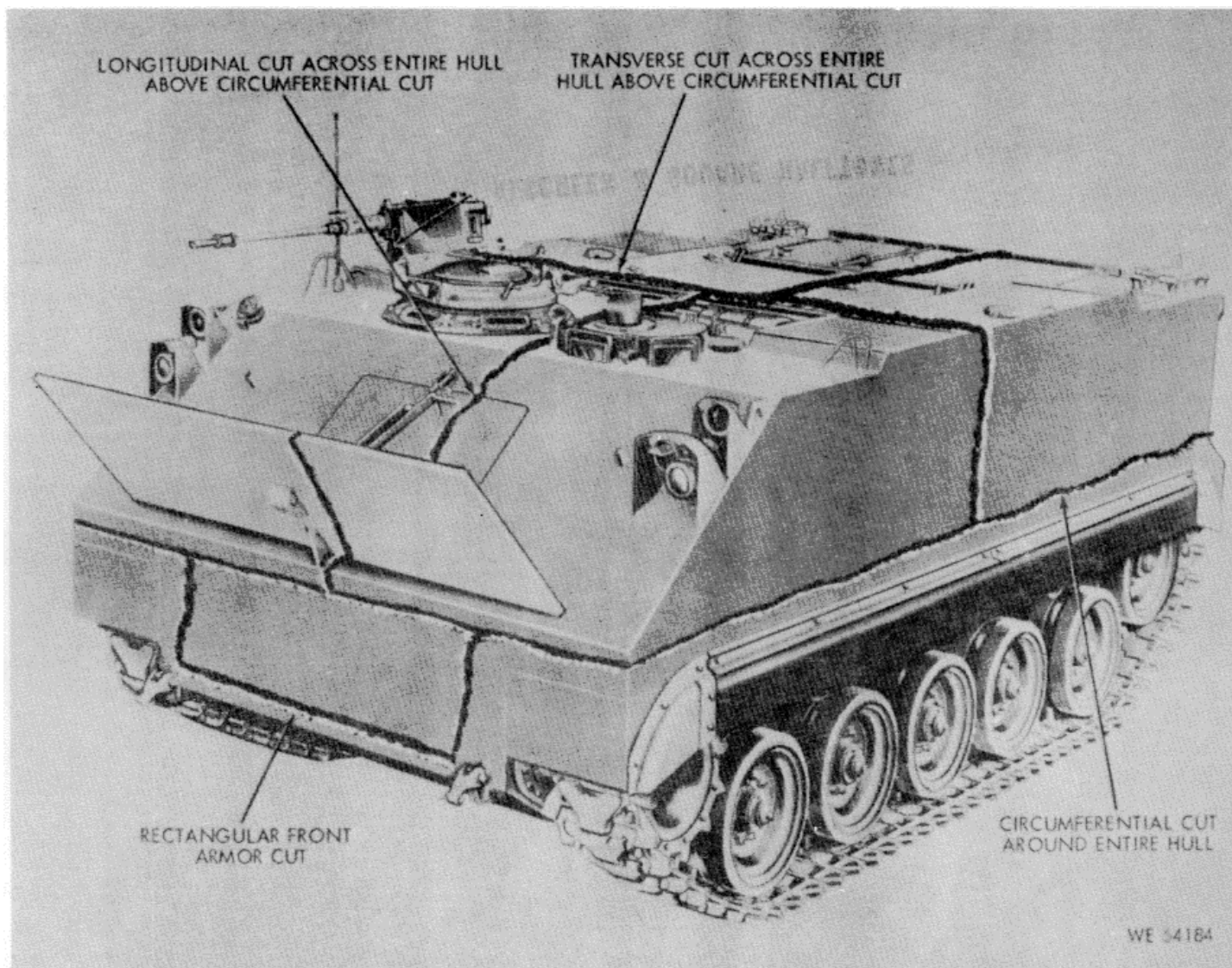


Figure 3. Demilitarization of M59 Personnel Carrier by Cutting

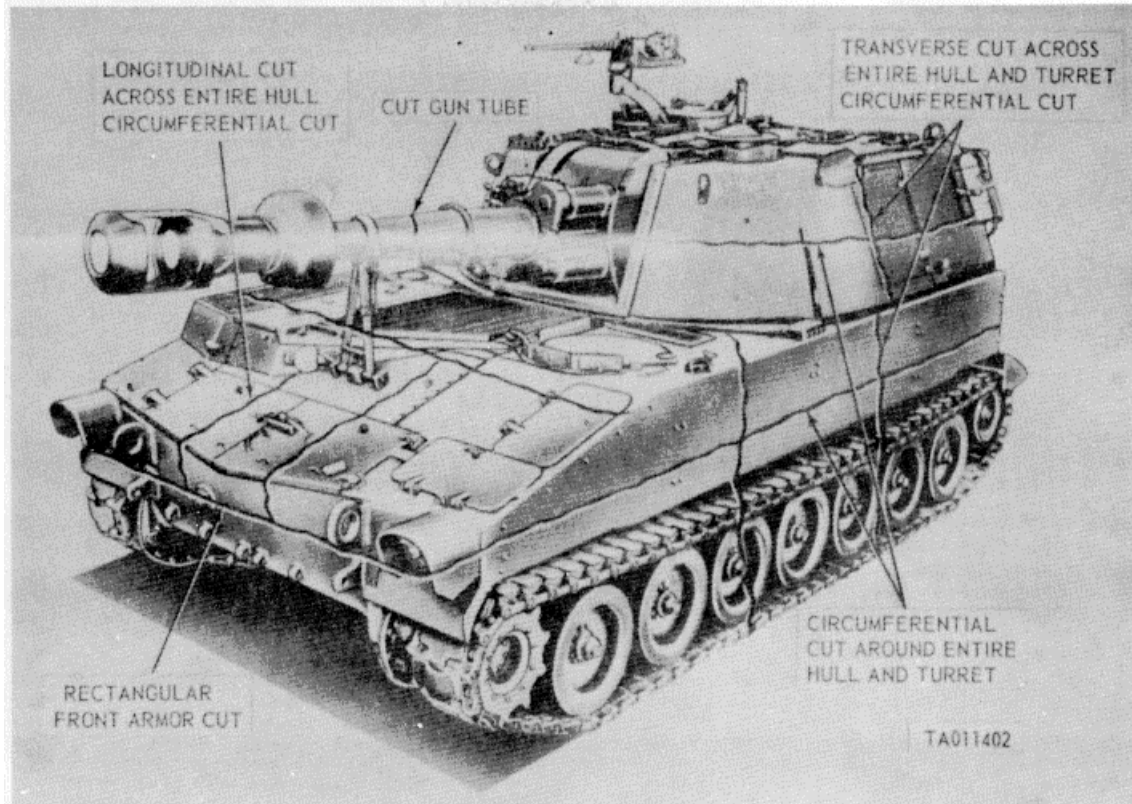


Figure 4. Demilitarization of SP Howitzer by Cutting

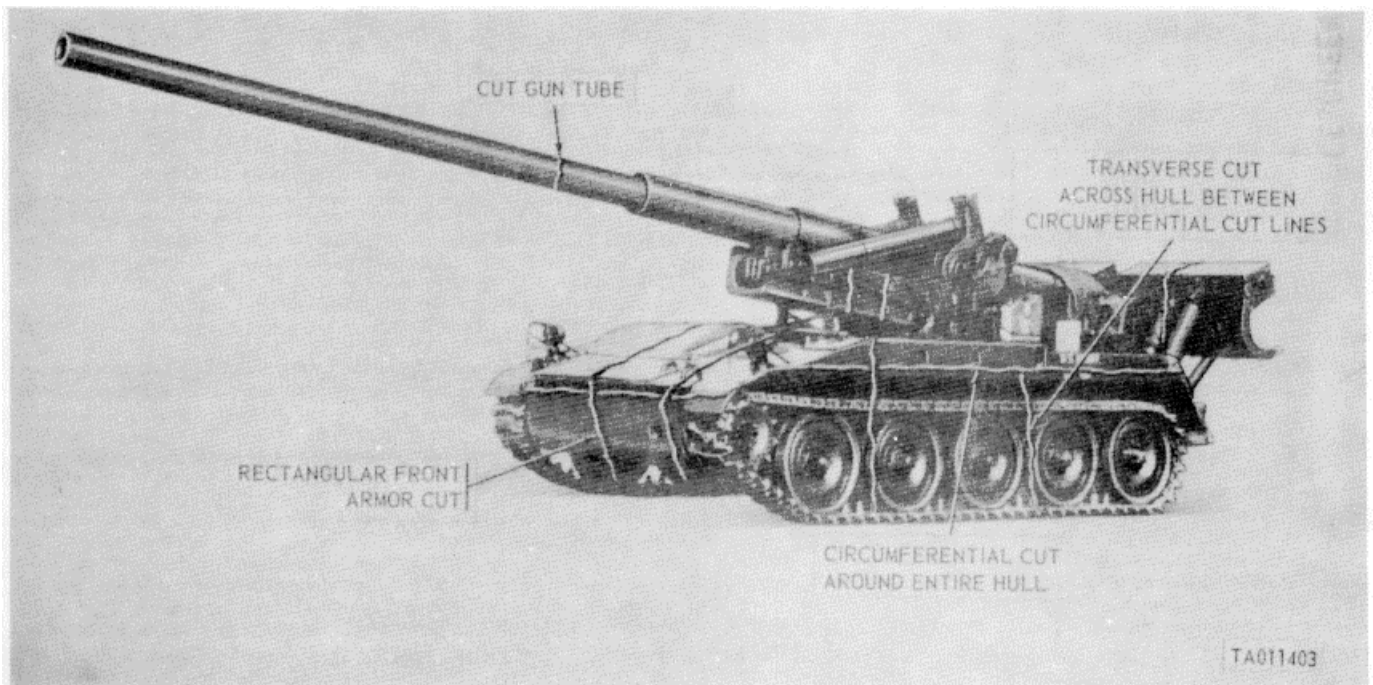


Figure 5. Demilitarization of SP Field Artillery by Cutting

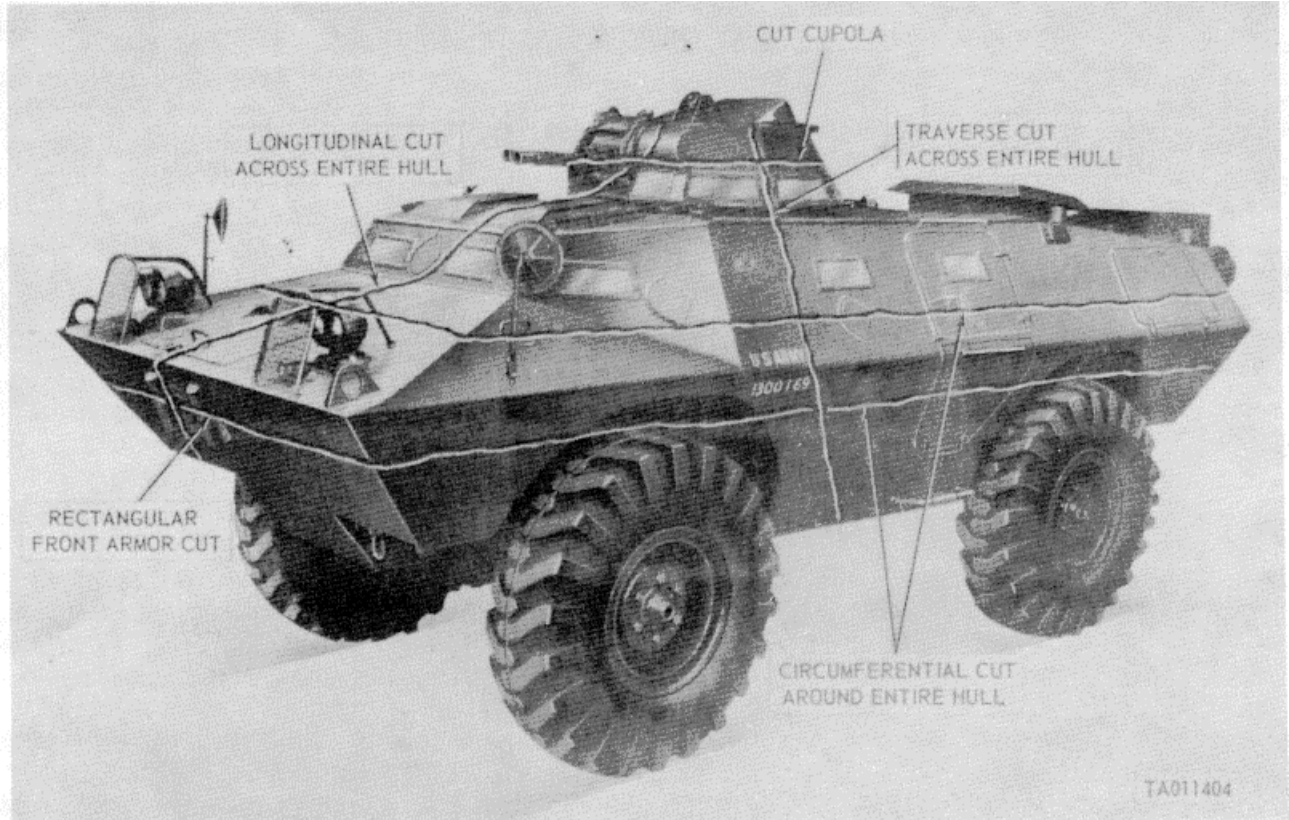


Figure 6. Demilitarization of Amphibious Armored Vehicle by Cutting

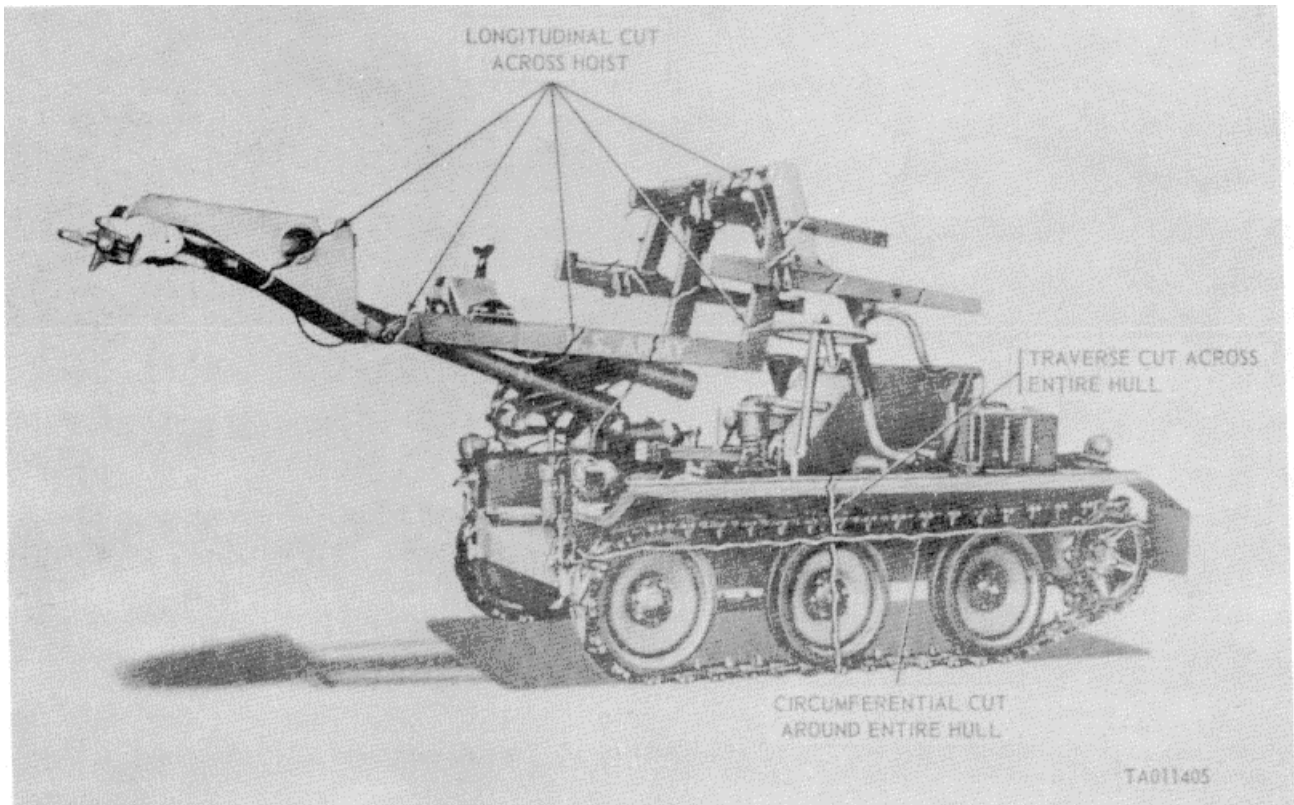
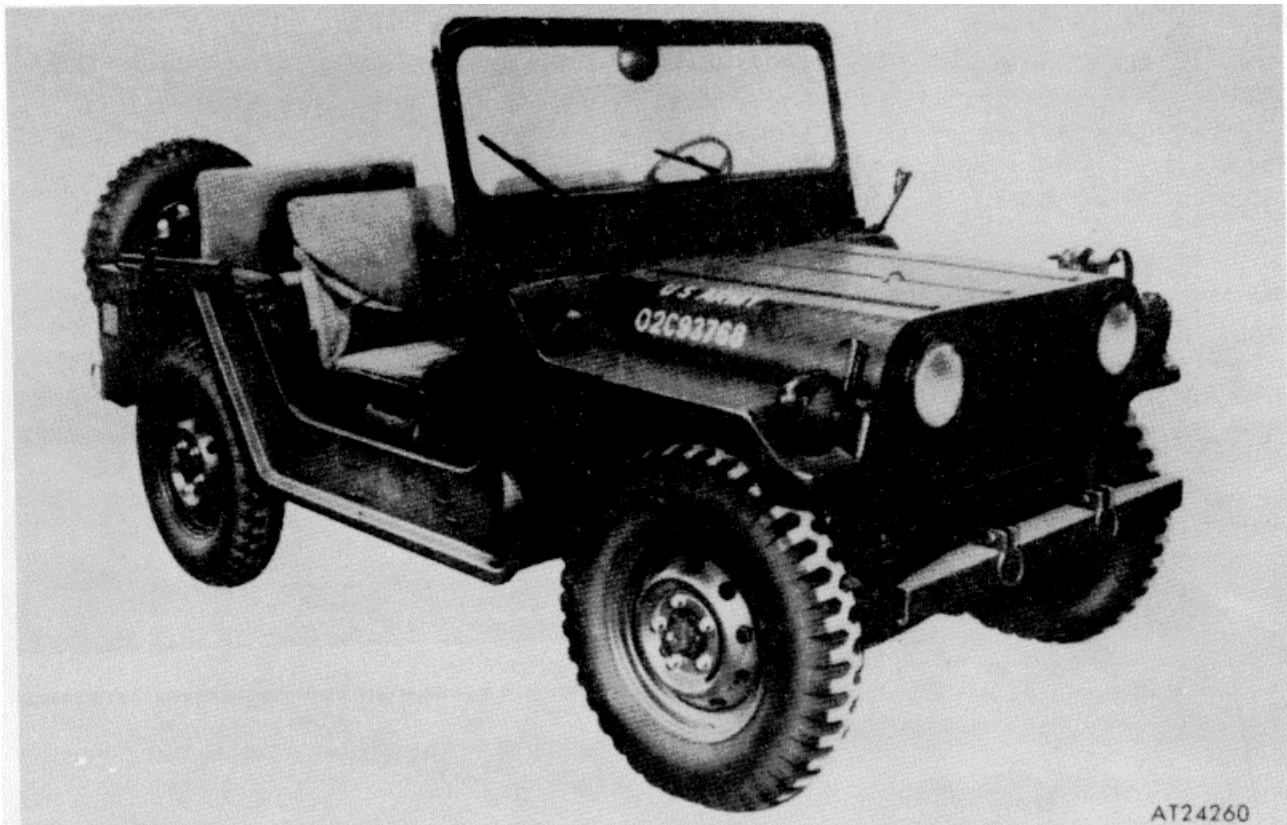


Figure 7. Demilitarization of Loader Transporter by Cutting



*Figure 8. M151, 1/4 Truck, Demilitarize Body, Frame and Suspension in Manner That Will Prevent Subsequent Reassemble*

## APPENDIX A

### *References*

DoD-416-.21-M-1  
(Draft) MIL-M-63033(TM)  
TM 38-750

Defense Demilitarization Manual  
Requirements for Demilitarization of Surplus Military Items  
The Army Maintenance System(TAMMS)

By Order of the Secretary of the Army:

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